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09/182,519	10/30/1998	LOUIS CAPORIZZO	GEN-020	2098

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EXAMINER

BUI, KIEU OANH T

ART UNIT	PAPER NUMBER
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2611

DATE MAILED: 01/20/2004

15

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/182,519

Applicant(s)

CAPORIZZO ET AL.

Examiner

KIEU-OANH T BUI

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-15 and 18-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-7,10-15,18-26 and 34 is/are rejected.
- 7) ☒ Claim(s) 8, 9, 27-33 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Arguments***

1. Applicant's arguments with respect to claims 1-7, 10-15, 18-26 and 34 have been considered but are moot in view of the new ground(s) of rejection.

***Remark***

2. Claims 2, and 16-17 were canceled. Pending claims are now claims 1, 3-15, and 18-34.

***Allowable Subject Matter***

3. Claims 8-9 and 27-33 are allowed.
4. The following is a statement of reasons for the indication of allowable subject matter:  
Regarding claim 8, the prior art of record fails to specifically teach or suggest a passthrough circuit as recited therein and at least including the step of "wherein the second signal path comprises: a channel surface acoustic wave filter, arranged to receive the tuned signal from the tuner and to filter the tuned signal to generate a filtered signal; an intermediate frequency strip, configured and arranged to amplify the filtered signal; a dual surface acoustic wave filter, configured and arranged to separate the amplified filtered signal into audio and video signal components; an audio and video amplifier, operatively coupled to the dual surface acoustic wave filter and configured and arranged to amplify the audio and video signal components; and an audio/video demodulator, configured and arranged to downconvert the amplified audio and video signal components to their respective baseband frequencies and to provide the downconverted audio and video signal components to the radio frequency modulator" as claimed. Other claims are allowable based on the dependency on the allowable subject matter of claim 8.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

*(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.*

6. Claims 1-2, 4-7, 10-15, 18-21, 23-25 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kikuchi (EP 0519667 A1) in view of Sakai et al. (US Patent 5,138,457).

Regarding claim 1, Kikuchi discloses a NICAM compatible television converter (Fig. 3) for use in a cable television converter terminal, a passthrough circuit for passing a tuned signal from a tuner, i.e., a converter for tuning to a plurality of different channels (Fig. 3/item 11, and col. 5/lines 10-20) to a radio frequency modulator (RF modulator 16) for output to external equipment (RF output), the passthrough circuit arrangement comprising: a first signal path, arranged to receive the tuned signal from the tuner and to provide a NICAM signal component of the tuned signal to the radio frequency modulator, i.e., a first signal path goes from an input signal terminal 10 to converter 11 as being converted to tuned signals and then through BPF 15 (for audio) and a demodulator 14 then to a block 32 comprising a NICAM filter 18 for providing NICAM signal, if detected by a NICAM signal detecting circuit 19, then to RF modulator 16 (Fig. 3, and col. 6/lines 14-29); and a second signal path, arranged to receive the tuned signal from the tuner and to provide at least one other signal component of the tuned signal to the radio frequency modulator, i.e., the tuned signal from converter 11 then goes through a descrambler

12, BPF 13 (for video), then to a demodulator 14 and provides as V signal to RF modulator 16 as at least one other signal component of the tuned signal provided to RF modulator 16 (col. 5/line 30 to col. 6/line 2).

Kikuchi further discloses that “wherein the first signal path comprises a NICAM surface acoustic wave filter, coupled to receive the tuned signal from the tuner and configured and arranged to pass a NICAM signal component of the tuned signal and to substantially reject non-NICAM signal components of the tuned signal”, i.e., NICAM filter 18 is eventually a NICAM SAW filter because only NICAM signal component of the tuned signal is filtered out by a NICAM filter 18 using further BPFs 27 & 29 (Fig. 4 as a closer look of NICAM filter 18), acting and performing same function as a NICAM SAW filter, and reject non-NICAM signal components of the tuned signal (col. 6/lines 14-51). Yet Kikuchi does not clearly address that this filter is a SAW filter as claimed; however, in a television receiver system, a SAW filter or a surface acoustic wave filter is commonly and conventionally used. In fact, Sakai teaches an exact technique in using a SAW filter within a NICAM system for reducing interference of a first audio signal carrier to a second audio signal carrier (see Sakai, Figs. 1-2, and col. 1/lines 8-16 & lines 30-54; col. 2/line 61 to col. 3/line 68 for SAW filter characteristics). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kikuchi’s system, particularly, such as a prior art system (as illustrated in Fig. 1 of the application), with a signal path comprising a NICAM SAW filter as taught by Sakai in order to obtain an enhanced system that can reduce interferences within audio signals as suggested by Sakai (col. 4/lines 25-37), which then comes up to a second receiving circuit as shown in Figure 2 of the present application. (Claim 2 was canceled).

With respect to claim 4, in further view of claim 1 above, Kikuchi discloses “wherein said first signal path comprises an alignment-free filter coupled to receive the tuned signal from the tuner and configured and arranged to pass a NICAM signal component of the tuned signal and to substantially reject non-NICAM signal components of the tuned signal”, i.e., the NICAM filter 18 further comprising BPFs 27 & 29 (Fig. 4), acting and performing same function as a NICAM SAW filter, is only served for this purpose (col. 6/lines 14-51). The same discussion with the teaching of a SAW filter within a NICAM system of Sakai is applied herein (see claim 1 above).

As for claims 5 and 6, in further view of claim 2 above, Kikuchi further discloses “wherein the first signal path further comprises a mixer, coupled to receive the NICAM signal component passed by the NICAM surface acoustic wave filter, and configured to downconvert the NICAM signal component to a baseband frequency” and “wherein the baseband frequency is one of 6.552 MHZ and 5.85 MHZ”, i.e., a mixer or adder 23 is used to receive NICAM signal component from a NICAM SAW filter 18 and block 32 configures to downconvert the NICAM signal to a baseband frequency of 6.552 MHZ and 5.85 MHZ (as illustrated in Fig. 3 with SIF signal out, col., 6/lines 14-29; and Fig. 5, col. 1/lines 26-32 for specific frequency ranges as addressed).

Regarding claim 7, in further view of claim 5 above, Kikuchi discloses “wherein the first signal path further comprises a low pass filter, coupled to receive the downconverted NICAM signal component from the mixer and configured and arranged to attenuate mixer harmonics from the downconverted NICAM signal and to provide a NICAM output signal to the radio frequency modulator”, i.e, BPFs 27 & 29 with a limiter amplifier 28 and attenuator 31 serves in this first path for downconverting and configured to provide NICAM output signals to RF modulator 16 (Figs. 3 & 4, and col. 6/lines 14-51).

Regarding claim 10 and claim 34, Kikuchi discloses a NICAM compatible television converter (Fig. 3) for use in a cable television converter terminal, a passthrough circuit for passing a tuned signal from a tuner, i.e., a converter for tuning to a plurality of different channels (Fig. 3/item 11, and col. 5/lines 10-20) to a radio frequency modulator (RF modulator 16) for output to external equipment (RF output), the passthrough circuit arrangement comprising: a first signal path, arranged to receive the tuned signal from the tuner and to provide a NICAM signal component of the tuned signal to the radio frequency modulator, i.e., a first signal path goes from an input signal terminal 10 to converter 11 as being converted to tuned signals and then through BPF 15 (for audio) and a demodulator 14 then to a block 32 comprising a NICAM filter 18 for providing NICAM signal, if detected by a NICAM signal detecting circuit 19, then to RF modulator 16 (Fig. 3, and col. 6/lines 14-29); and a second signal path, arranged to receive the tuned signal from the tuner and to provide at least one other signal component of the tuned signal to the radio frequency modulator, i.e., the tuned signal from converter 11 then goes through a descrambler 12, BPF 13 (for video), then to a demodulator 14 and provides as V signal to RF modulator 16 as at least one other signal component of the tuned signal provided to RF modulator 16 (col. 5/line 30 to col. 6/line 2). Kikuchi further inherently suggests "wherein the first signal path is constructed as a unitary circuit module" because the circuitry of the NICAM processing is bounded in a block 32 labeled as a digital audio signal processing circuit (col. 6/lines 14-29), and that block can be placed within a module as a convenience manner to place and replace that module, if needed, as preferred.

Regarding claims 11-15, these claims for a passthrough circuit “for use in a cable television converter terminal, a passthrough circuit for passing a tuned signal from a tuner to a radio frequency modulator for output to external equipment, the passthrough circuit arrangement comprising: a NICAM surface acoustic wave filter, coupled to receive the tuned signal from the tuner and configured and arranged to pass a NICAM signal component of the tuned signal and to substantially reject non-NICAM signal components of the tuned signal; a mixer, coupled to receive the NICAM signal component passed by the NICAM surface acoustic wave filter, and configured to downconvert the NICAM signal component to a baseband NICAM IF frequency; and a low pass filter, coupled to receive the downconverted NICAM signal component from the mixer and configured and arranged to attenuate mixer harmonics from the downconverted NICAM signal and to provide a NICAM output signal to the radio frequency modulator” as well as “wherein the selected frequency is one of 45.75 MHZ and 38.9 MHZ” are rejected in the scope of claims 1-7 and 10 as already disclosed in details above.

As for claims 18-21 and 23-25, Kikuchi discloses a system and a method of including a NICAM filter 18, only NICAM signal component of the tuned signal is filtered out by a NICAM 18 further comprising BPFs 27 & 29 (Fig. 4), acting and performing same function as a NICAM SAW filter, and reject non-NICAM signal components of the tuned signal (Figs. 3 & 4, and col. 6/lines 14-51), in order to separate a NICAM audio signal from the output of the tuner or converter 11, and then inputting that audio signal to a modulator (RF modulator 16), and providing audio and video signals as RF signal to the television set (Fig. 2, and col. 7/line 58 to col. 8/line 14).



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7. Claims 3, 22, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kikuchi (EP 0519667 A1) in view of Sakai et al (US Patent 5,138,457) and Robbins et al (US Patent 5,220,602).

As for claims 3, 22, and 26, in further view of claims 1, 19, and 24 respectively above, Kikuchi further discloses “wherein the NICAM surface acoustic wave filter outputs a signal to a mixer”, i.e., a NICAM signal is then provided to a mixer or an adder 23 (Fig. 3, and col. 6/lines 30-51), but Kikuchi does not address that “which is set at a selected frequency using a crystal oscillator” and “mixing said NICAM audio signal with an oscillating signal and filtering said NICAM audio signal”; however, Robbins teaches to use a local oscillator 38 for providing a predetermined and selected frequency at the output signal of the SAW filter 26 (Robbins, col. 3/lines 49-67) for mixing with the NICAM audio signal and then filtering it as suggested by Kikuchi with BPFs 27 & 29 (Kikuchi, Fig. 4, and col. 6/lines 30-51). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combined Kikuchi and Sakai’s NICAM SAW system with the use of a known local oscillator as suggested by Robbins in order to provide a predetermined and selected frequency at the output signal of the SAW filter and then mixing that oscillating signal with the NICAM audio signal and then later filtering it out with BPFs as suggested by Kikuchi.

***Conclusion***

**8. Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to:**

(703) 872-9306, (for Technology Center 2600 only)

*Hand-delivered responses should be brought to Crystal Park IV, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).*

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krista Kieu-Oanh Bui whose telephone number is (703) 305-0095. The examiner can normally be reached on Monday-Friday from 9:00 AM to 6:00 PM, with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Faile, can be reached on (703) 305-4380.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.



Krista Bui  
Art Unit 2611  
January 8, 2004

KRISTA BUI  
PATENT EXAMINER